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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/810,019	03/25/2004	Robert C. West	Q198-US1	2480
7590		07/03/2007	EXAMINER	
Quallion LLC		CREPEAU, JONATHAN		
P.O. Box 923127				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/810,019	Applicant(s) WEST ET AL.	
	Examiner Jonathan S. Crepeau	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-7, 11-17, 19-23 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 2,3,8-10 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4-23-04 5-19-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of species (iii) in subgenus (a) and species (i) in subgenus (b) in the reply filed on April 26, 2007 is acknowledged. Species (iii) of subgenus (i) has been examined on the merits and found to be allowable herein. Accordingly, the other species of subgenus (a) have also been rejoined for examination on the merits.

Specification

2. Applicant is respectfully requested to update and/or insert the appropriate application or patent numbers into paragraphs [0001] and [0002] of the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 4, 5, 6, 7, 11, 12, 21, 23, and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoon et al (U.S. Pre-Grant Publication No. 2005/0170253). The reference teaches a battery comprising an electrolyte comprising a polysiloxane having terminal silicons linked to polyalkylene oxide moieties (see [0041]). Each Si in the polymer may have a polyalkylene oxide moiety attached to it (see [0142]). The polysiloxane may be crosslinked and may be in a liquid form (see [0040], [0080]). The conductivity of the electrolyte would inherently be within the range recited in claim 27.

Note: The Yoon reference claims priority to 60/542,017, filed on Feb. 4, 2004, which is prior to the February 11, 2004 provisional application filing date of the instant application. The '017 application discloses polyalkylene oxide moieties on terminal silicons and thus supports this disclosure in the Yoon publication, but does not disclose any carbonate moieties, and thus does not support this disclosure in the Yoon publication.

5. Claims 1, 4, 5, 6, 11, 12, 23, and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by West et al (U.S. Pre-Grant Publication No. 2006/0035154). The reference teaches a battery comprising an electrolyte comprising a polysiloxane having terminal silicons linked to polyalkylene oxide moieties (see [0022]). The polysiloxane may be crosslinked.

Note: The West reference claims priority to 60/542,017, filed on Feb. 4, 2004, and 60/502,017, filed on September 10, 2003, which are both prior to the February 11, 2004 provisional application filing date of the instant application. The 542,017 application discloses

polyalkylene oxide moieties on terminal silicons and thus supports this disclosure in the West publication, but does not disclose any carbonate moieties, and thus does not support this disclosure in the West publication. The 502,017 application only appears to disclose a polyalkylene oxide and a carbonate moiety on non-terminal silicons and is considered to support the West reference only to this extent.

6. Claims 1, 4, 5, 12, 23, 26, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2002-151150. The reference teaches a battery comprising an electrolyte comprising a polysiloxane having one terminal silicon connected to a polyalkylene oxide moiety (see Formula 4 of claim 1 of the reference). The conductivity of the electrolyte would inherently be within the range recited in claim 27.

Thus, the instant claims are anticipated.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being obvious over Yoon et al.

The reference is applied for the reason stated above. However, the reference does not expressly teach the [O]/[Li] ratio as recited in claim 22. However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the electrolyte of the reference would be likely to contain a relatively large quantity of polyalkylene oxide and thus have a large concentration of active oxygen. As such, the claimed ratio is not considered to distinguish over the reference.

The applied reference appears to have a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

9. Claims 13-17 and 19-22 are rejected under 35 U.S.C. 103(a) as being obvious over West et al.

The reference is applied for the reason stated above. However, the reference does not expressly teach the [O]/[Li] ratio as recited in claim 22, the molecular weight of the polysiloxane as recited in claim 21, or that the polysiloxane has the specific formula recited in claim 13.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the electrolyte of the reference would be likely to contain a relatively large quantity of polyalkylene oxide and thus have a large concentration of active oxygen. As such, the claimed ratio is not considered to distinguish over the reference. Regarding molecular weight, this is a quantity that may be routinely manipulated by the skilled artisan. In this case, the artisan may ascertain that the materials of West, by virtue of the disclosure of a generic formula, would likely not exceed a molecular weight of 3000. As such, this limitation would be rendered obvious.

Regarding the formula recited in claim 13, this formula would also be rendered obvious by West. In [0025] the reference discloses an embodiment in which the non-terminal silicons have a polyalkylene oxide and a carbonate moiety attached thereto. Accordingly, it would be obvious to combine this embodiment with the embodiment wherein the terminal silicons have polyalkylene oxide moieties attached thereto, and then cross-linking. Such a structure would render obvious the formula of claims 13-17, 19, and 20.

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C.

102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

10. Claims 11, 21, 22, and 25 are rejected under 35 U.S.C. 103(a) as being obvious over JP '150.

The reference is applied for the reason stated above. However, the reference does not expressly teach the [O]/[Li] ratio as recited in claim 22, the molecular weight of the polysiloxane as recited in claim 21, or that the polysiloxane is crosslinked as recited in claims 11 and 25.

However, the invention as a whole would have been obvious to one of ordinary skill in the art at the time the invention was made because the electrolyte of the reference would be likely to contain a relatively large quantity of polyalkylene oxide and thus have a large

concentration of active oxygen. As such, the claimed ratio is not considered to distinguish over the reference. Regarding molecular weight, this is a quantity that may be routinely manipulated by the skilled artisan. In this case, the artisan may ascertain that the materials of JP '150, by virtue of the disclosure of a generic formula, would likely not exceed a molecular weight of 3000. As such, this limitation would be rendered obvious.

Regarding the limitation that the polysiloxane is crosslinked, this limitation does not appear to be disclosed by JP '150. However, the artisan would be sufficiently motivated to crosslink the material of the reference because the reference discloses that it is used in a gel electrolyte (see claim 7 of the reference), which is usually a complex, crosslinked network of polymer material containing a liquid. Accordingly, the subject matter of claims 11 and 25 would be rendered obvious.

Allowable Subject Matter

11. Claims 2, 3, 8-10, and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter:

Each of the instant claims recites a carbonate moiety linked to a terminal silicon. None of the above applied references teaches or fairly suggests this subject matter. Note: the Yoon reference discloses terminal carbonate moieties in [0041], but this subject matter is not

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adequately supported by the provisional applications and does not antedate the filing date of the instant application.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Crepeau whose telephone number is (571) 272-1299.

The examiner can normally be reached Monday-Friday from 9:30 AM - 6:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan, can be reached at (571) 272-1292. The phone number for the organization where this application or proceeding is assigned is (571) 272-1700. Documents may be faxed to the central fax server at (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jonathan Crepeau
Primary Examiner
Art Unit 1745
June 27, 2007